Foreword

The Superfund program has achieved substantial progress in cleaning up hazardous waste sites and protecting human health and the environment with cleanup underway at 89 percent of the sites on the National Priorities List (NPL) (excluding Federal Facilities). To make the program faster, fairer, and more efficient, EPA launched three rounds of Superfund reforms beginning in 1993 that cover a wide range of Superfund concerns, including enforcement, public involvement, State and Tribal empowerment, cleanup effectiveness, economic redevelopment, environmental justice, and program consistency.

Implementation of Superfund reforms has strengthened the program and allowed concepts to be tested prior to reauthorization. For example, EPA estimates that reviewing and updating selected remedies at specific sites in the last two years will yield future cost reductions of over \$900 million. Similarly, EPA has effectively reduced the pursuit of small volume (i. e., *de minimis* and de micromis) contributors by private parties, increased public involvement in the cleanup process by creating Regional Ombudsmen to address public concerns, and promoted economic development and environmental justice with Brownfields and job-training initiatives.

As a result, today's Superfund is dramatically different than it was just five years ago. EPA has streamlined cleanups, reduced litigation and bureaucracy, and made common sense improvements to Superfund. This report looks at the accomplishments of the second and third rounds of EPA's Superfund reforms.

Table of Contents

Forewordi		
Introdu	uction	1
Reform	ns at a Glance	7
Round	Three Reforms	21
l.	Cleanups	
3-1.a.	Establish National Remedy Review Board (NRRB)	
3-1.b.	Establish New Remedy Selection Management Flags ("Rules-of-Thumb")	
3-2.	Update Remedy Decisions at Select Sites	
3-3.a.	Clarify the Role of Cost in the Remedy Selection Process	
3-3.b. 3-4.	Directive on National Consistency in Remedy Selection	
3-4. 3-5.a.	Clarify Information Regarding Remedy Selection Decisions	
3-5.a. 3-5.b.	PRP Performance of Risk Assessments	
3-6.a.	Establish National Criteria on Superfund Risk Assessments	
3-6.b.	Standardizing Risk Assessments	
3-6.c.	Utilize Expert Workgroup on Lead	
3-7.	Establish Lead Regulator at Federal Facilities	
3-8.	Consider Response Actions Prior to NPL Listing	
3-9.	Delete Clean Parcels from the NPL	37
3-10.a.	Promote Risk-Based Priority Setting at Federal Facility Sites	
3-10.b.	Promote Risk-Based Priority for NPL Sites	39
II.	Enforcement	
3-11.	Orphan Share Compensation	41
3-12.	Site Specific Special Accounts	
3-13.	Unilateral Administrative Orders (UAO) Reform	
3-14.	Revised De Micromis Guidance	
3-16.	Improving the Administration of PRP Oversight	47
.	Public Involvement	40
3-17.	Pilot Remedy Selection by Selected States and Tribes	
3-18.	Pilot Community Based Remedy Selection	
3-19. 3-20.	Establish Superfund Ombudsman in Every Region Improve Communication with Superfund Stakeholders	
ა-∠∪.	Improve communication with Superfund Stakeholders	೦೨

Superfund Reforms

Round	d Two Reforms	55
I. 2-1. 2-2. 2-3.	Enforcement PRP Search Pilots Expedited Settlement Pilots The Allocation Pilots	57
II. 2-4.a. 2-4.b. 2-4.c. 2-4.d. 2-4.e.	Economic Redevelopment Brownfields Pilot Projects Brownfields Community Outreach Refining CERCLIS Clarifying NPL Sites Removing Liability Barriers: Prospective Purchaser Agreements (PPAs)	63 64 65
III. 2-5.a. 2-5.b. 2-6.	Community Involvement and Outreach Community Advisory Groups (CAGs) Technical Assistance Grants (TAGs) Community Involvement in the Enforcement Process Pilots	71
IV. 2-7.a. 2-7.b.	Environmental Justice Training and Health Service Assistance to Communities Superfund Jobs Training Initiative (Super JTI)	
V. 2-8. 2-9.a. 2-9.b.	Consistent Program Implementation Guidance for Remedy Selection	81
VI. 2-10. 2-11. 2-12.	State and Tribal Empowerment Voluntary Cleanup Program Integrated Federal/State/Tribal Site Management Program State/Tribal Superfund Block Funding	84

Introduction

The Superfund program is fundamentally different. Since 1993, when EPA announced the first round of reforms, the program has changed in response to stakeholder's concerns. Through the commitment of EPA, State and Tribal site managers, other Federal agencies, private sector representatives, and involved communities, we have achieved real results protecting public health and the environment, while experimenting with and instituting changes to the cleanup process through Superfund Reforms. EPA's cleanups address real threats to public health and the environment, and where possible, return sites to productive uses (*see Figure 1*). The reforms are taking hold, and we have put in place a faster, fairer and more efficient Superfund program.







Figure 1: The Fort Devens NPL site in Worcester, MA, during and after Superfund Cleanup. The top photograph was taken in February 1995 during cleanup operations. The bottom photos depict the U.S. Bureau of Prisons new hospital (left) and the Gillette Corporation warehouse and distribution center (right) which are part of the site redevelopment.

Some indicators of the reforms success through September 30, 1997 include the following:

- Increased the pace of cleanup and completed cleanup construction at 498 sites on the National Priorities List (NPL);
- Authorized responsible parties to perform or fund approximately 70% of Superfund long-term cleanups, saving taxpayers, more than \$12 billion:
- Removed over 15,000 small contributors from the liability system
- Achieved estimated public and private future cost reductions (savings) of over \$900 million; and,
- Evaluated and archived almost 30,500 sites from CERCLIS, the national inventory of hazardous waste sites.

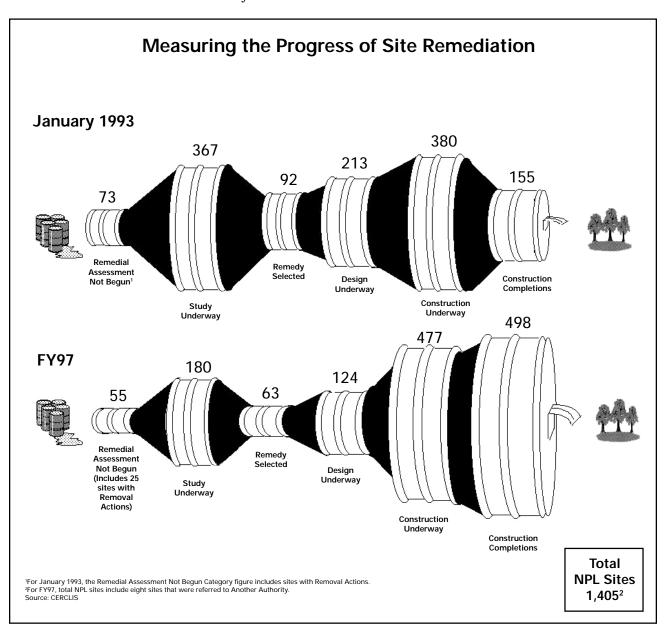


Figure 2

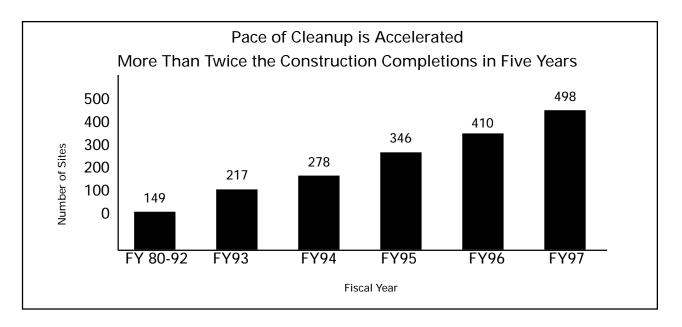


Figure 3

The reforms to Superfund, EPA's hazardous waste cleanup program, are intended to improve the efficiency, pace, cost, and fairness of the program. *Figures 2 and 3* show that EPA, through program reforms, achieved far more cleanups in the last five years than in the first 12 years of the program. This achievement is not isolated. Over 89 percent of the sites on the NPL have cleanup underway or completed (*see Figure 4*). Many of these cleaned up sites have been developed for commercial and other beneficial purposes (see *Figure 5*).

The Superfund Reforms consist of various initiatives and pilots that are being implemented within CERCLA's existing statutory framework. As EPA continues to implement the Superfund reforms, we continue to appreciate the flexibility this approach affords to improve the program.

The first round of Superfund Administrative Improvements, introduced in June 1993, were described in a closeout report issued in February 1995 ("Superfund Administrative Improvements Closeout Report," June 23, 1993 - September 30, 1994, OSWER, February 1995). These reforms focused heavily on speeding up site investigation and construction completion activities.

In February 1995, EPA introduced a second round of reforms, many of which were structured around the principles embodied in the Clinton Administration's Superfund reauthorization proposal in the 103rd Congress (i.e., the Superfund Reform Act of 1994). The second round of reforms was



Figure 4

an effort to administratively test or implement many of the innovations contained in the proposal through pilot projects as well as new or revised Agency guidance. The 12 reforms contained in Round 2 encompass six areas: enforcement, economic redevelopment, community involvement and outreach, environmental justice, consistent program implementation, and State empowerment.

In October 1995, EPA introduced the third and final round of Superfund reforms. This round consisted of 20 reforms designed to make cost-effective cleanup choices that protect public health and the environment, reduce litigation and transaction costs, and insure that states and communities are more informed and involved in cleanup decisions.



Figure 5: Jack Nicklaus demonstrates his technique for chipping out of a black sand bunker, which uses detoxified slag from a former copper smelter. This was at the 1997 opening of Anaconda's Old Works Golf Course, which Nicklaus designed on a portion of a National Priorities List site in Montana.

This report describes the continuing implementation and evaluation of the second and third rounds of the Superfund Reforms through Fiscal Year 1997. The report is divided into three sections: 1) Reforms at a Glance, 2) Round 3 Reforms, and 3) Round 2 Reform Initiatives. The Reforms at a Glance section provides a quick overview of the major accomplishments as well as the current status and projected completion dates for Rounds 3 and 2 Reforms. The remaining sections provide details on the Rounds 3 and 2 reforms including: the results, lessons learned, stakeholder comments and suggestions, and EPA's evaluation of the reform, where appropriate.

Reforms at a Glance

Major Program Accomplishments-Fundamentally Different Superfund

Construction Completions (498 by 9/27/97)

Archived Sites (30,454 as of 9/30/97)

De Minimis Parties Settled Out (over 15,000)

Brownfields Pilots (121 Pilots-awarded up to \$200,000 per pilot)

Prospective Purchaser Agreements (68 agreements have been reached; 51 have been entered since May 1995 Guidance)

This "Reforms at a Glance" section provides a quick reference tool that summarizes the current status and future activities planned for each reform. The reforms are separated into broad categories within Rounds 2 and 3, including Cleanup, Enforcement, Public Involvement, Economic Redevelopment, Community Outreach, Environmental Justice, Consistent Implementation, and State and Tribal Empowerment. Implementation of 27 of the reforms is complete, while several others are nearing completion. EPA has characterized 18 of the completed reforms as those designed to fundamentally change the Superfund program, as opposed to simply improving it. Completed reforms designed to fundamentally change the Superfund are identified in the Status column as "Completed/Fundamental Change."

The table's separate columns present easily accessible information for each reform. The first column, "Reform," provides the title of the reform and, in parenthesis, its number. The second column, "Status," describes each reform's accomplishments through FY97. The bar under each reform indicates its status – whether the reform is still ongoing or completed. "Completed" indicates that the major objectives of the reform have been fulfilled, and future activity will consist mainly of continuing to implement the reform (e.g., the reform called for a guidance document to be issued, that guidance was issued, and future activity will consist of implementing that guidance). The third column, "Next," lists future actions that will be taken to implement the reform.

Reforms at a Glance ROUND 3

R e f o r m	Status	N e x t
CLEANUPS		
Establish National Remedy Review Board (NRRB) (1A)	 Established Remedy Review Board (11/95) Issued memorandum and fact sheet on Remedy Review Board (9/96) Issued annual progress report (12/96) Reviewed a total of 20 site decisions saving an estimated \$31.5 million (9/97) 	 Review cleanup decisions at approximately 10 sites in FY98 Implement recommendations to refine the scope and nature of the Board's mission as well as its implementation procedures Review non-time-critical removal actions that meet certain criteria
Establish New Remedy Selection Management Flags/Rules of Thumb (1B)	 Issued consolidated guide to consultation procedures for Superfund response decisions (5/97) Issued guidance on rules of thumb for Superfund remedy selection (8/97) 	 Implementation of this reform is complete EPA staff will continue to use the consolidated guide and guidance to improve remedy selection process
Update Remedy Decisions at Select Sites (2)	Issued final implementation memorandum (9/96) Estimated future cost savings of over \$360 million from updating remedies at over 50 sites in FY96 Revised estimated future cost savings of over \$360 million from updating remedies at over 60 sites in FY97 Updates are currently underway at 35 additional sites COMPLETED/FUNDAMENTAL CHANGE	 Work with States and PRPs to identify opportunities for improving remedies Develop Regional Plans specifying how each Region will implement this reform in FY98 Tabulate specific remedy update data on a quarterly basis

R e f o r m	Status	N e x t
Clarify the Role of Cost in the Remedy Selection Process (3A)	Issued memorandum and fact sheet on the role of cost (9/96) COMPLETED	Implementation of this reform is complete
Directive on National Consistency in Remedy Selection (3B)	Issued national consistency memorandum (9/96) COMPLETED	Implementation of this reform is complete
Clarify Information Regarding Remedy Selection Decisions (4)	Developed interim remedy selection summary sheet (12/96)	Prepare more comprehensive guidance for end of FY98
Community Participation in Designing Risk Assessments (5A)	Develop draft reference document on good practice	 Issue draft reference document on good practice in January 1998 Issue final document in September 1998
PRP Performance of Risk Assessments (5B)	Issued guidance clarifying PRP role in risk assessments (1/96) COMPLETED/FUNDAMENTAL CHANGE	Survey Regions in FY98 to determine if there are sites where PRPs perform the RI/FS but not the baseline risk assessment
Establish National Criteria to Plan, Report and Review Superfund Risk Assessments (6A)	 Drafted standard risk assessment data reporting tables (7/97) Issued Technical Approach to Risk Assessment for planning reporting, and reviewing risk assessments (9/97) 	Issue Risk Assessment Guidance for Superfund in the second quarter of FY98

Reform	Status	N e x t
Standardize Risk Assessments (6B)	 Formed EPA Workgroups (3/97) Issued draft workplan (3/97) Initiated guidance development (5/97) Initiated planning for next stakeholders meeting in early 1998 (7/97) 	 Convene stakeholders meeting in March 1998 Issue final guidance in December 1998 Completed guidance document(s) (12/97)
Utilize Expert Workgroup on Lead (6C)	 Convened a national conference on lead (10/96) Drafted five issue papers (6/97) 	Finalize five issue papers and issue a directive on lead removal actions in early FY98
Establish Lead Regulator for Federal Facilities (7)	Developed draft policy	EPA will complete imple- mentation of reform with signed policy on the single regulator concept in FY98
Consider Response Actions Prior to NPL Listing (8)	Amended October 1992 NPL policy (4/97) COMPLETED/ FUNDAMENTAL CHANGE	Continue to collect information and monitor implementation of reform
Delete Clean Parcels from the NPL (9)	 Issued notice on policy change to allow partial deletions (11/95) Issued partial deletion guidance (4/96) Issued three notices of intent and six final notices to delete clean parcels from the NPL (9/97) 	 Issue additional notices of intent to delete clean parcels Pilot deletion of remediated parcels at closing military bases

Reform	Status	N e x t
Promote Risk-Based Priority Setting at Federal Facility Sites (10 A)	Developed draft guidance	Issue final guidance in second quarter of FY98
Promote Risk-Based Priority for NPL Sites (10B)	 Established National Risk-Based Priority Panel to rank sites based on risk (8/95) Evaluated over 50 projects during FY97 (8/97) 	 Continue review of cleanup projects started in FY97 Reconvene panel (early spring 1998)

FNFORCEMENT

ENFORCEMENT		
Orphan Share Compensation (11)	 Offered over \$100 million in orphan share compensation over the last 2 fiscal years Existence of orphan share may be considered in settlement of cost recovery cases, as stated in the Addendum to the "Interim CERCLA Settlement Policy", issued September 30, 1997 	Continue to offer orphan share compensation at every eligible site under the June 1996 Interim Guidance on orphan share compensation
Site Specific Special Accounts (12)	 Reached agreement that interest can accrue directly to special accounts (6/96) Through FY97, \$52 million in interest accrued from \$405 million principal in 93 special accounts COMPLETED/FUNDAMENTAL CHANGE	As an outgrowth of this reform, EPA is exploring options for disbursing these funds to PRPs to perform future response work

R e f o r m	Status	N e x t
Unilateral Administrative Orders (UAO) Reform (13)	 Issued memorandum to Regions directing changes in procedures for UAO issuance (8/96) HQ personnel independently review the documentation prepared by Regional staff and determine consistency with existing Agency policy, including 8/96 memorandum In multi-Agency MOU (currently circulating for signature) Federal Resource Managers receiving newly delegated UAO authority commit to comply with existing Agency policies, including this reform. 	
Revised De Micromis Guidance (14)	Issued de micromis guidance and models in which levels previously identified for small party protection were doubled, and streamlined and simplified the settlement process (6/96) COMPLETED/FUNDAMENTAL CHANGE	Develop a directive encouraging the inclusion of De Micromis waivers in CERCLA settlements
Adopting Private Party Allocations (15)	Used allocations as basis for settlement at several sites (9/96) COMPLETED/FUNDAMENTAL CHANGE	This reform was merged with the orphan share reform

Reform	Status	N e x t
Improving the Administration of PRP Oversight (16)	 Issued directive on reducing oversight (7/96) Targeted reduced PRP oversight at approximately 100 sites (9/96) Initiated national workgroup to implement directive (1/97) Met with external stakeholders to get feedback on implementation of reform (5/97) 	 Organize meetings between Regions and PRPs to discuss oversight issues Conduct site-specific evaluations to assess reform impacts

PUBLIC INVOLVEMENT

Pilot Remedy Selection by Selected States and Tribes (17)	Issued formal solicitation for pilot sites (6/97)	 Develop process and procedures for new State remedy pilots (11/97) Collect information on pilots, past and present, with intent to publish "lessons learned" document
Pilot Community-Based Remedy Selection (18)	Discussions on Regional approaches ongoing	Continue to discuss regional approaches to community based remedy selection throughout FY98
Establish Superfund Ombudsman In Every Region (19)	 Appointed an ombudsman in each Region Convened annual meetings (6/96 and 2/97) Conducted ongoing public outreach and mediation training (2/97) 	 Conduct ongoing public outreach Convene annual meeting
Improve Communication with Superfund Stakeholders (20)	Created Headquarters Superfund homepage (4/96) COMPLETED/FUNDAMENTAL CHANGE	Continue to post and revise Superfund information on EPA Superfund homepage

Reforms at a Glance ROUND 2

Reform	Status	N e x t
ENFORCEMENT		
PRP Search Pilots (1)	Initiated Pilots at 15 Superfund sites COMPLETED	 Pilots Done Incorporate lessons learned into the program Issue comprehensive PRP Search Guidance in FY 98
Expedited Settlement Pilots (2)	Initiated pilots at 18 Superfund sites	Complete pilotsIncorporate lessons learned into the program
The Allocation Pilots (3)	 Offered allocation process at 12 sites; process being piloted at 9 Superfund sites Three allocation reports issued One settlement lodged Two other sites settled pre-allocation report 	• Complete pilots

ECONOMIC REDEVELOPMENT

- REDEVELOT WIENT		
Brownfields Pilot Projects and Brownfields community outreach (4A-B)	Awarded 121 pilots - up to \$200,000 per pilot (10/97) COMPLETED/FUNDAMENTAL CHANGE	 Identify up to 100 assessment pilots in FY98 Initiate expansion of site assessments Select 10 Brownfields Showcase Communities Work with NIEHS to coordinate minority workers with pilot activities Continue outreach to stakeholders and offer technical assistance

Reform	Status Ne x t
Refining CERCLIS (4C)	Archived sites (30,454 as of 9/30/97) Completed/Fundamental Change Continue to archive sites from CERCLIS
Clarifying NPL Sites (4D)	 Convened workgroup (5/95) Workgroup recommended a policy change to allow partial deletions Published Federal Register notice (11/95) This completes implementation of the workgroup's recommendation Implementation of this reform is complete
Removing Liability Barriers: PPAs (4E)	 Issued 4 guidance documents providing assurance to prospective purchasers, lenders, and property owners on CERCLA liability (10/96) Continue using PPAs to encourage redevelopment of Superfund sites

COMMUNITY INVOLVEMENT AND OUTREACH

AND OUTREACH		
Community Advisory Groups (5A)	 Issued guidance summary on use of CAGs (8/96) Issued case Studies of five sites, "Community 	 Continue to test CAG Toolkits at various sites Evaluate CAGs and develop new methods to
	Assistance Groups: Partners in Decisions at Hazardous Waste Sites" (11/96) • Established CAGs at 33 sites (5/97)	promote and assist CAGs
	Issued the CAG Toolkit one of the most effective mechanisms for implementing the CAG program at Superfund sites (8/97)	
	COMPLETED	

Technical Assistance Grants (5B) • Drafted proposed TAG regulation • Promote citizen involvement by improving TAGs and facilitating the process • Publish provisions to the TAG regulation in FY98 Community Involvement in the Enforcement Process Pilots (6) • Completed piloted activities at some of the 13 sites selected • Continue to implement enhanced community involvement activities at the remainder of the selected sites. Also implement most effective activities outside the scope of the pilot • Complete pilot • Complete pilot • Complete pilot • Complete pilot • Incorporate lessons learned into the program	R e f o r m	Status	N e x t
the Enforcement Process Pilots (6) activities at some of the 13 sites selected activities at some of the involvement activities at the remainder of the selected sites. Also implement most effective activities outside the scope of the pilot Complete pilot Incorporate lessons		• •	regulation Promote citizen involvement by improving TAGs and facilitating the process Publish provisions to the
	the Enforcement Process	activities at some of the 13 sites selected	enhanced community involvement activities at the remainder of the selected sites. Also implement most effective activities outside the scope of the pilot Complete pilot Incorporate lessons

ENVIRONMENTAL JUSTICE

Training and Health Service Assistance to Communities (7A)	Targeted 4 sites for assistance (9/97)	Secure funding to finance FY98 pilot projects
Superfund Jobs Training Initiative (7B)	 Funded NIEHS minority worker training programs for FY97 EPA Superfund Jobs Training Initiative started five pilots at Superfund sites 	 Continue to fund NIEHS Continue to establish SuperJTI pilots
	COMPLETED	

Reform Status N e X **CONSISTENT PROGRAM IMPLEMENTATION** Issue a supplemental Issued new land use directive **Guidance for Remedy** bulletin for multi-phase Selection (8) (5/95)extraction to assist site Issued final soil screening managers using VOCs guidance (5/96) presumptive remedy Issued a presumptive remedy Develop additional users guide for volatile organic bulletins to document time compounds in soils (7/96) and future cost reductions · Issued additional presumptive remedy guidance for: wood treater sites (12/95), MSW landfills at military bases (4/96), and ground water sites (10/96) Issued supplemental bulletin for multi-phase extraction technology for the VOCs in soils presumptive remedy (4/97) COMPLETED/FUNDAMENTAL CHANGE Prepare final guidance on Issue guidance for risk-Risk Sharing: Implementing Innovative Technology (9A) implementing the risk sharing initiative (2/98) sharing initiative (10/97) · Engage State agencies in this initiative through ITRC Risk Sharing: Identifying Issued innovative Implementation of this **Obstacles to Using** reform is complete technologies in waste Innovative Technology (9B) management directive (4/96) COMPLETED

Reform Statu N X S e STATE AND TRIBAL **EMPOWERMENT Voluntary Cleanup Program** Decided preferred Agency anticipates (10)approach is for EPA awarding up to \$15 million Regions and States to in cooperative agreements to States in FY98 negotiate MOAs on a caseby-case basis that can be customized to better fit the State's VCP and legislation As of January 1998, EPA has signed MOAs with eleven states COMPLETED Integrated Federal/State/ Issued final guidance on Evaluate review of State **Tribal Site Management** deferral program (5/95) deferrals and determine Program (11) appropriate followup Signed agreements with actions 12 States (8/97) COMPLETED State/Tribal Superfund Nine State and three Tribal Issue final report **Block Funding (12)** pilots are underway documenting obstacles in awarding and utilization of Superfund resources (12/97) Evaluate ongoing pilots in FY98